Fisher Center: Financial Tsunami – Where Do We Go from Here?

November 24, 2008
Section 1

Global Economy and Investment Markets
Unprecedented Financial and Economic Times

<table>
<thead>
<tr>
<th>The Vicious Cycle</th>
<th>The Casualties</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Losses on Leveraged Borrowing</td>
<td>$591 billion Financial Sector Writedowns (1)</td>
</tr>
</tbody>
</table>
| 2. Deterioration in Credit Quality | Market capitalization of equity markets has declined significantly (2):
| 3. MTMs/Losses in Financials | • World: $48Tr to $31Tr (35% decline)
| 4. De-leveraging / Reduction in Credit Availability | • US: $18Tr to $11Tr (39% decline)
| 5. Asset Price Declines | $3.6Tr in lost home values (3) |
| 6. Impact on the Real Economy | Median existing single-family home prices expected to decline from $221,000 (2007Q1) to $180,000 (2009Q1), a decline of over 18% (4) |
| 7. Repeat step 1 | US Consumer spending, nearly 2/3 of the economy, dropped 0.3% in September, the sharpest decline for consumer spending in the last four years (5) |

The Casualties

1. Asset writedowns and credit losses; Bloomberg as of September 29, 2008
2. FactSet aggregate market value calculations from January 1, 2007 to November 7, 2008
3. $20.3Tr in peak household real estate value (Federal Reserve) and 18% home value decline (Case-Schiller)
4. National Association of Realtors Estimate
5. Commerce Department
6. University of Michigan
### How Has Our Market View “Evolved” Over Time?

<table>
<thead>
<tr>
<th>Economic Growth</th>
<th>Fall 2007</th>
<th>Spring 2008</th>
<th>Fall 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>US in recession, slower growth elsewhere – emerging markets will help rest of world</td>
<td>Decoupling can still occur, although slower US hurting many other markets</td>
<td>Global recession – downturn to be sharper in developed markets (US, Japan, UK, France and Germany) – distinctly slower growth in emerging markets</td>
</tr>
<tr>
<td>Capital Markets</td>
<td>Credit crunch impacting transaction volumes, no recovery for 12+ months (late 2008)</td>
<td>Credit “crunch” evolves to credit “crisis”, no recovery for 12+ months (mid 2009)</td>
<td>Complete disarray, timing of recovery is unclear - 12 - 24 months</td>
</tr>
</tbody>
</table>
| Real Estate Pricing | Re-pricing underway, differentiation by asset quality and market. Prime office cap rates may adjust as follows:  
- US: +100bp  
- Western Europe: <50bp  
- Developed Asia: <25bp | Re-pricing underway, differentiation by asset quality and market. Prime office cap rates may adjust as follows:  
- US: 100 to 125bp  
- Western Europe: 50 to 75bp  
- Developed Asia: 25 to 50bp | All markets completely frozen, including Asia  
Re-pricing underway, differentiation by asset quality and market. Prime office cap rates may adjust as follows:  
- US: 100 to 150bp+  
- Western Europe: 75bp to 100bp+  
- Developed Asia: 50bp to 100bp+ |
| Real Estate Fundamentals | Fundamentals are strong although risks exist  
New supply is modest; only markets with weaker economies face risk | Vacancies moving up, tenants gain pricing power  
Greater weakness in growth to hit fundamentals  
Landlords already capitulating in the harder hit markets | Fundamentals globally beginning to weaken  
Cash flows facing risks  
Vacancies rising, downward pressure on rents |

Spring 2008

- Fundamentals globally beginning to weaken  
- Cash flows facing risks  
- Vacancies rising, downward pressure on rents
Stress in All Corners of the Market

- S&P 500 volatility at record highs (VIX is key measure of market expectations of near-term volatility)

- Hedge fund performance down:
  - Monthly return for September (6.55%), the second worst monthly performance ever recorded by the index
  - YTD performance at (10.1%)

- Metals and Crude Oil down 32% and 28% YTD, respectively

- Emerging Market Equities down 47% YTD

Volatility
CBOE Volatility Index of S&P 500

Hedge Fund Performance
Credit Suisse Tremont Hedge Fund Index (Monthly Returns)

Commodities
Indexed to 100

Emerging Markets Index
MSCI Emerging Markets Index Indexed to 100

Source: Bloomberg as of November 6, 2008
Source: FactSet as of November 6, 2008
Lending Markets Are Expensive, if Not Closed

- Lending markets have been virtually closed but recent signs of a slight thaw
- Fed is actively trying to stimulate the commercial paper market

**Historical Non-Investment Grade Spreads**

```
<table>
<thead>
<tr>
<th>Date</th>
<th>Spread (bps)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-03</td>
<td>800</td>
</tr>
<tr>
<td>Sep-03</td>
<td>600</td>
</tr>
<tr>
<td>Jun-04</td>
<td>400</td>
</tr>
<tr>
<td>Mar-05</td>
<td>200</td>
</tr>
<tr>
<td>Nov-05</td>
<td>100</td>
</tr>
<tr>
<td>Aug-06</td>
<td>50</td>
</tr>
<tr>
<td>May-07</td>
<td>25</td>
</tr>
<tr>
<td>Jan-08</td>
<td>10</td>
</tr>
<tr>
<td>Nov-08</td>
<td>5</td>
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```

Source: Bloomberg as of November 6, 2008

**Non-Investment Grade Debt Issuance**

```
<table>
<thead>
<tr>
<th>Year</th>
<th>Issuance ($Bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>140</td>
</tr>
<tr>
<td>2004</td>
<td>154</td>
</tr>
<tr>
<td>2005</td>
<td>111</td>
</tr>
<tr>
<td>2006</td>
<td>180</td>
</tr>
<tr>
<td>2007</td>
<td>166</td>
</tr>
<tr>
<td>2008E</td>
<td>65</td>
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</tbody>
</table>
```

Source: Morgan Stanley

**Historical Investment Grade Spreads**

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<tr>
<th>Date</th>
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</tr>
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<tbody>
<tr>
<td>Jan-03</td>
<td>165</td>
</tr>
<tr>
<td>Sep-03</td>
<td>145</td>
</tr>
<tr>
<td>Jun-04</td>
<td>125</td>
</tr>
<tr>
<td>Mar-05</td>
<td>105</td>
</tr>
<tr>
<td>Nov-05</td>
<td>85</td>
</tr>
<tr>
<td>Aug-06</td>
<td>65</td>
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</tr>
<tr>
<td>Jan-08</td>
<td>25</td>
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<tr>
<td>Nov-08</td>
<td>10</td>
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</tbody>
</table>
```

Source: Bloomberg as of November 6, 2008

**Investment Grade Debt Issuance**

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<table>
<thead>
<tr>
<th>Year</th>
<th>Issuance ($Bn)</th>
</tr>
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<tbody>
<tr>
<td>2003</td>
<td>1,116</td>
</tr>
<tr>
<td>2004</td>
<td>1,083</td>
</tr>
<tr>
<td>2005</td>
<td>1,079</td>
</tr>
<tr>
<td>2006</td>
<td>1,408</td>
</tr>
<tr>
<td>2007</td>
<td>1,456</td>
</tr>
<tr>
<td>2008E</td>
<td>590</td>
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</tbody>
</table>
```

Source: Morgan Stanley
US Real Estate Market - Key Points

- Capital market challenges dominate
  - Financing markets highly constrained, expensive and focused on mezz
  - Equity looking for distress can dictate terms
  - Capital markets are differentiating on quality with the best properties performing better

- Fundamentals beginning to worsen and will slide through 2009 at the least
  - Demand uniformly weakening due to slower growth and uncertainty regarding the economy
    - Office: vacancies slipping, sublease up - landlords beginning to accept lower rents
    - Retail: property quality matters, sales down in weak locations, flat in good ones
    - Apartment: job losses weighing on occupancies near-term, favorable demand trends once the economy stabilizes (strong demographics, tight credit, etc.)
    - Industrial: imports growth has slowed to near-zero, absorption flat to down in 2008/2009
    - Hotel: demand near-zero with healthy supply, occupancies continue to slip, weakening RevPAR growth (could turn negative)
    - Housing: prices still falling, unsold inventory on the decline, but markets still out of balance
  - Development now all but stopped, which helps on the margin
  - Differentiation in growth across markets helps, but capital market headwinds hitting all markets
CMBS Markets Dislocated; Critical to a Turn Around
CMBS Activity, Spreads and Maturities

U.S. CMBS Issuance and CDO Transaction Volume

- U.S. CMBS Issuance
- CDO Transaction Volume

$Bn

<table>
<thead>
<tr>
<th>Year</th>
<th>US CMBS Issuance</th>
<th>CDO Transaction Vol</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>37</td>
<td>74</td>
</tr>
<tr>
<td>1998</td>
<td>57</td>
<td>67</td>
</tr>
<tr>
<td>1999</td>
<td>47</td>
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<td>2000</td>
<td>67</td>
<td>93</td>
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<tr>
<td>2001</td>
<td>52</td>
<td>169</td>
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<td>2002</td>
<td>78</td>
<td>203</td>
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<td>2003</td>
<td>169</td>
<td>229</td>
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<td>2004</td>
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<tr>
<td>2006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008E</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Morgan Stanley; Real Capital Analytics data through October 2008, Morgan Stanley calculations, Thomson One

Projected CMBS Maturities

- 2008-2012

$Bn

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>52</td>
<td>55</td>
<td>72</td>
<td>69</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>52</td>
<td>55</td>
<td>72</td>
<td>69</td>
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<tr>
<td>2010</td>
<td>52</td>
<td>55</td>
<td>72</td>
<td>69</td>
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<tr>
<td>2011</td>
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<td>55</td>
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<td>69</td>
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</tr>
<tr>
<td>2012</td>
<td>52</td>
<td>55</td>
<td>72</td>
<td>69</td>
<td></td>
</tr>
</tbody>
</table>

Source: Moody's Structured Finance research dated 25 February 2008; based on initial maturity dates, Trepp

AAA & BBB CMBS Fixed Rate Spreads

- Spread over 10-Year Treasury

AAA (bps) (1)

- Source: Morgan Stanley Fixed Income Research through October 22, 2008

Note
1. On 28 May 2008, Morgan Stanley research stated that they will no longer track AAA 10-year spreads. From this date forward, AAA refers to the Super Senior AAA 10-year.
Housing Remains in Distress, Market has not yet Found Bottom

- The US housing markets remain in recession
  - Sales volumes have not yet bottomed
  - The inventory of new homes for sale has begun to decline, although remains well above normal levels
  - The supply/demand balance, as measured by months of supply, remains near peak levels
- Prices remain under pressure
  - Prices have declined 20% in total
  - But, the pace of decline has slowed

### New Home Sales
- Seasonally Adjusted Annual Rate (000s)

### Inventory: New Homes for Sale
- Seasonally Adjusted Annual Rate (000s)

### Months of Supply
- Seasonally Adjusted Annual Rate (Months)

### Home Price Appreciation
- Monthly Change, Case Schiller 20 City Index (%)
Section 2

Where Do We Go From Here?
Commercial Pricing Expectations – Priced for a +/-20% Decline

- Market commentators are looking for a +/-20% price adjustment
  - Prices have already declined 12% through August according to Moody’s Commercial Property Price Index (CPPI)
  - Capital markets distress and a period of excessive pricing is putting upward pressure on yields
  - Weakening economic growth is leading to a reduced outlook for cash flow growth
- MS is projecting cap rates to rise 200bp peak to trough (i.e., rise from 5% to 7%)
  - Forecasting capital markets is especially uncertain with risks to the outlook
  - For example, as spreads revert, they could move through historical normal levels

![Commercial Property Price Index](chart)

**Commercial Real Estate Price Forecasts**
Cumulative Price Decline by Forecast Group

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Futures</td>
<td>(22)</td>
<td>(18)</td>
<td>(15)</td>
<td>(18)</td>
<td>(25)</td>
<td>(20)</td>
<td>(15)</td>
<td>(10)</td>
</tr>
<tr>
<td>PPR</td>
<td>(18)</td>
<td>(22)</td>
<td>(15)</td>
<td>(18)</td>
<td>(25)</td>
<td>(20)</td>
<td>(15)</td>
<td>(10)</td>
</tr>
<tr>
<td>Rosen</td>
<td>(15)</td>
<td>(15)</td>
<td>(15)</td>
<td>(15)</td>
<td>(15)</td>
<td>(15)</td>
<td>(15)</td>
<td>(15)</td>
</tr>
<tr>
<td>ULI/PwC</td>
<td>(10)</td>
<td>(10)</td>
<td>(10)</td>
<td>(10)</td>
<td>(10)</td>
<td>(10)</td>
<td>(10)</td>
<td>(10)</td>
</tr>
</tbody>
</table>

Avg: 18.3

**Source:** Various sources as listed, Markit
Unsecured Borrowers: Debt Exchanges/Tender Offers

Borrower Advantages

- Reduces book leverage by amount of discount
- Ability to extend maturities/enhance terms
- Possibly cash flow accretive

Consideration: need to create attractive value proposition for lenders

Case Study: Unsecured Debt Exchange – XYZ REIT

<table>
<thead>
<tr>
<th>Original Bonds</th>
<th>Exchange Offer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maturity:</strong> 12/09</td>
<td><strong>Maturity:</strong> 12/15</td>
</tr>
<tr>
<td><strong>Security:</strong> Unsecured</td>
<td><strong>Security:</strong> 2nd Lien</td>
</tr>
<tr>
<td><strong>Coupon:</strong> 6%</td>
<td><strong>Coupon:</strong> 12%</td>
</tr>
<tr>
<td><strong>Principal Balance:</strong> $100</td>
<td><strong>Principal Balance:</strong> $40</td>
</tr>
<tr>
<td><strong>Current Market Price:</strong> $30</td>
<td><strong>Exchange Price:</strong> $40</td>
</tr>
</tbody>
</table>

In the current market where liquidity is at a premium, debt exchanges offer borrowers the opportunity to repay/reduce principal without using cash reserves. Lenders may view the exchange as an opportunity to:

a) crystallize gains (if they have a low basis)
b) enhance their position

Hovnanian and Harrah’s, as well as multiple companies outside of real estate, such as ResCap, have recently announced debt exchanges.

For those companies that have access to capital and have debt trading below par, tender offers provide similar de-levering benefits.

REIT Investment Grade 10-Yr New Issue Spreads

Current Average BBB Spread: +800

Source: Morgan Stanley
Secured Borrowers: Old CMBS vs. New CMBS

- For secured borrowers, leverage levels will come down as liquidity for the most subordinate traunches has been reduced considerably.
- Buyers of subordinate traunches will return discipline to the market and replace the role that the rating agencies have played over the last several years.
  - The “new” CMBS will look more like the “old” CMBS of 5-10 years ago before CDOs became a primary source of funds for subordinate traunche buyers.

**Old CMBS**
- Purchase higher risk piece of capital structure
- Use repo financing for added leverage
- Results in mismatch of short term leverage on a long term asset with potential for margin calls

**New CMBS**
- Originate whole loan
- Sell senior portion
- Hold retained option with no added leverage
- Eliminate margin call risk

### LTV and Borrowers Equity

<table>
<thead>
<tr>
<th>Old CMBS</th>
<th>New CMBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>$15 Borrowers Equity</td>
<td>$25 Borrowers Equity</td>
</tr>
<tr>
<td>$10 Mezzanine Loan</td>
<td>$18.75 Retained Portion of Whole Loan</td>
</tr>
<tr>
<td>$75 Whole Loan</td>
<td>$56.25 Senior Portion of Whole Loan</td>
</tr>
</tbody>
</table>

- **Effective LTV:** 82.5% - 85%
- **LTV:** 56.25% - 75%
- **Repo Financing:** Utilize 3:1 Leverage

**Source:** Eastdil Secured

- **$56.25**
  - Senior Portion of Whole Loan
- **$10 Mezzanine Loan**
- **$15**
  - Borrowers Equity

- **$25**
  - Borrowers Equity
- **$18.75**
  - Retained Portion of Whole Loan

- **$75**
  - Whole Loan

- **Higher leverage**
- **Thin slice / high loss severity**
- **Extremely susceptible to margin calls**

- **Moderate leverage**
- **Thick slice / lower loss severity**
- **No susceptibility to margin calls**
• While median home price/household income is an overly simplistic measure of affordability, the long-term trend has been remarkably stable prior to 2000
  – Beginning in 2000, low interest rates and increasing mortgage availability have caused home prices to outpace income gains
  – Median household income levels have grown by ~20% since 2000, though higher unemployment and lower wages in the next several years should offset a portion of these historical increases
• Projected future declines should bring pricing back in-line with historical affordability trends
  – To date, the market has experienced a 17% decline from peak, ~2/3 of the total projected peak-trough decline

Rationale for Over-Correction

1. Incomes decline from unemployment / lower wages
2. Higher borrowing costs than historicals
3. Mortgage availability continues to decline

Rationale for Under-Correction

1. Quick economic recovery with wage / job expansion
2. Lower borrowing costs
3. Government action to artificially support home values or spur mortgage availability
• As home prices grew over the last decade, construction costs have increased at more modest rates creating significant residual value for land

• Many important constituencies have benefited from the run-up in land values
  – Land owners – significant positive operating leverage in land investments
  – Municipalities – increased permitting and land use fees
  – Homebuilders – expanded margins as land value increases were crystallized through home sales
  – Contractors – increased wages and mark-ups on materials
1. Municipalities must re-evaluate historical financing structures heavily weighted towards construction fees/permits
   - Services and growth plans must also be reviewed in-line with available financing sources

2. Land is going through a substantial re-capitalization as it is transferred to unlevered equity providers

**Previous Capitalization**
- Debt
  - Banks
  - Non-bank Financial Institutions
- Equity
  - Homebuilders
  - Land Banks
  - Opportunity Funds
  - Pension Funds
  - Hedge Funds

**New Capitalization**
- Small Parcels
  - Local Operators
  - Homebuilders
- Large MPCs
  - ???